



SeaFreeze

Energy efficiency upgrades at a warehouse facility on the Port of Seattle result in lower utility bills but are invisible to customers and line staff.

206 SW Michigan St.
Seattle, WA 98106

Number of Employees: 100 Year Founded: 1978

Region Served: National
and International www.seafreeze.com

Profile

SeaFreeze, a venerable cold storage warehouse with local and international customers, took advantage of a low-interest loan from the State Energy Program to invest in energy efficiency. With daunting utility bills due to its refrigeration facilities, the company was looking for creative ways to cut costs. Today the company's energy bills are nearly one-quarter lower, thanks to an array of improvements made to its warehouse and processing stockrooms.

"The bigger our utility bill, the more dollars are going out the door," said Neil O'Leary, explaining why his company, SeaFreeze, needed to reduce its energy usage. "Utilities are a very big part of our monthly costs."

SeaFreeze, a commercial cold storage warehouse, has been a fixture on the Port of Seattle since 1978. From modest beginnings, it has grown to employ 100 workers and occupy seven million cubic feet. A USDA and FDA inspected facility, SeaFreeze is also a Customs Bonded Facility, handling a large volume of international exports and imports.

SeaFreeze primarily serves the beef, baked goods and seafood sectors, including products ranging from Alaskan crab to frozen waffles. The warehouse is located on the Duwamish River, giving direct access to water

traffic and enabling deep water access via the adjacent terminal.

O'Leary, the company's director of strategic development, explained that the firm initially considered efficiency measures in 2002, but at that time "the numbers didn't pencil out." While the improvements would clearly save the business money in the long term, the steep upfront costs discouraged the company from adopting the measures.

In August 2009 O'Leary learned about the State Energy Program and realized his company might be eligible for a low-interest loan of Recovery Act dollars. Cascade Engineering conducted a second energy audit and this time identified nine measures that would significantly reduce SeaFreeze's monthly utility bills – by approximately 23 percent. The company was awarded the loan,



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Upgrades to lighting fixtures will save SeaFreeze nearly one million kilowatts-per-hour each year, or enough to power up to 100 homes.

which covered about a third of the cost of the upgrades, and made the improvements in 2010.

“The audit turned out to be accurate. We’ve been doing data collection over the last month, and we’re very close,” reported O’Leary.

The SeaFreeze warehouse is subdivided into rooms for different products. Ice cream and certain types of seafood must be chilled at temperatures of minus 20 degrees, while other rooms are maintained at a relatively balmy minus 10 degrees. With workers and forklift drivers entering and exiting the warehouse rooms, refrigeration seepage was a major concern. Therefore, some of the first upgrades were to install self-closing doors. Nineteen freezer doors were equipped with sensors which automatically close the doors after a timed delay. A door in the chill room

and the elevator hallway were both replaced with fast-acting doors with sensors.

Next, the company added Variable Frequency Drives (VFDs) to many of its cooling fans and to the compressors in the engine room. While the change isn’t noticeable, it creates energy bill savings. “Our forklift drivers don’t notice the difference, but for our engineers it makes the warehouse run a lot smoother,” said O’Leary.

Improvements to refrigeration piping and compressor units allowed for better refrigeration load balancing.

In addition, SeaFreeze replaced nearly 500 light fixtures with more efficient models. One-hundred-twenty-two halide lighting units in the processing rooms, and 366 halide and sodium lights in the warehouse, were replaced with lower-

wattage florescent fixtures. In doing so, the company was able to leverage a rebate program offered by Seattle City Light for companies investing in energy-efficient lighting. All told, the lighting upgrades will result in nearly one million kilowatts-per-hour saved each year, or enough electricity to power between 50 and 100 homes annually.

O’Leary reported that SeaFreeze management is pleased the company was able to invest in efficiency measures, particularly in a trying economy.

“[Commerce has] a very good program and I hope it keeps going. For a business our size, that is not a national corporation, this program allows us to get over the funding hurdle.” O’Leary added, “In a time of rising utility prices and within an increasingly competitive industry, this project has helped to ensure that SeaFreeze’s employees will continue to contribute to a successful and growing workplace into the future.”